

NEW SPECIES OF *CANTHONELLA* CHAPIN
FROM HISPANIOLA
(COLEOPTERA: SCARABAEIDAE: SCARABAEINAE)

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Abstract.—*Canthonella howdeni*, n. sp. and *C. baorucensis*, n. sp. are described from the Sierra de Baoruco of Pedernales Province, Dominican Republic. A key is provided to distinguish them from previously described West Indian congeners. Diagnostic characters of the head, labium, legs and male genitalia are illustrated for the new species and *C. isabellae* Matthews.

The scarabaeines of the Greater Antilles constitute a small (29 species), taxonomically isolated, and highly endemic fauna. A perusal of the literature indicates that this fauna is well known, having been reviewed by Matthews (1966). Only a few taxa have been described since that time (2 species by Matthews, 1969; 1 species by Howden, 1976; and a genus for already described species by Simonis, 1981). Several faunal papers on West Indian scarabs (sens. lat.) have been published since Matthews (Howden, 1970, 1978; Cartwright and Chalumeau, 1978; Chalumeau, 1983; and others).

On a recent expedition to the Dominican Republic (15 August to 15 September 1988), we collected 11 species of scarabaeines, but surprisingly only 5 of these were among the 9 described and 1 undescribed species recorded from Hispaniola (Matthews, 1966, 1969). Below, we described 2 new species of *Canthonella* Chapin and add to the characters known for Matthews' *C. isabellae*. The other undescribed species collected, all *Canthochilum* spp., will be described later.

Descriptions are modeled after Matthews (1966, 1969) to facilitate recognition of the species and maximize comparative information. Both new species share the characters of the genus *Canthonella* as defined by Matthews (1966). Within the West Indies, Hispaniola appears to be the center of diversity of this genus, with a total of 4 known species. Cuba and Puerto Rico, both much better collected than Hispaniola, have only one species each (Matthews, 1966).

The new species were collected at Las Abejas (the beehives), a local name for an area of Parque Nacional El Aceitillar, with south-eastern exposure in the Sierra de Baoruco of Pedernales Province. It is densely forested, with mixed pine and broad-leaved sclerophyll forest on aluminous-lateritic soils overlying limestone. An area of high botanical and entomological endemism (Howard, 1973; Schwartz, 1989), the forest is thick with lianas and epiphytes, and contains a remnant of the native mammal fauna [the huitia (*Capromyidae*)] as well as feral pigs.

Matthews (1966) indicated that the members of *Canthonella* are euryphagous coprophages, with *C. parva* recorded as feeding on bird, snail and anthropochorus mammal dung (Matthews, 1965). Virtually all of the specimens of both new species were taken in pitfall traps baited with human dung. We placed a variety of unbaited

and fruit-baited pitfall and flight intercept traps in the area, and the single dung baited trap, located in dense forest with deep leaf litter, accounted for 103 of 105 total specimens.

Holotypes, allotypes and paratypes of both species are placed in the National Museum of Natural History, Washington. Additional paratypes are deposited in our collections and those of H. Howden, B. Ratcliffe, P. Lago, B. Gill, F. Chalumeau, the British Museum (Natural History), Muséum National d'Historie Naturelle (Paris), and Museo Nacional de Historia Natural (Santo Domingo). Vouchers for the records of *C. isabellae* Matthews are in our collections.

Matthews (1966) provided a key to the 4 species of West Indian *Canthonella* known to him. The new species described below will key to couplet 3, where they will fit neither choice. The following couplets should be substituted for couplet 3. Male genitalia should always be used to confirm identifications in this genus, but the external characters used below appear quite trustworthy.

3. Elytral macula yellow-orange, reaching base of elytron; 8th stria strongly punctate *C. isabellae* Matthews
 3'. Elytral macula whitish-yellow, not reaching base of elytron; 8th stria not strongly punctate 4
 4. Elytral macula not reaching 3rd interval, not narrowed on 5th; labium rounded-truncate anteriorly. Cuba *C. pygmaea* (Harold)
 4'. Basal elytral macula extending onto 3rd interval, narrowed on 5th; labium obtusely produced anteriorly. Hispaniola 5
 5. Elytron with triangular macula at apex of interstriae 1, 2, and 3; a smaller (occasionally obsolete) macula at apex of stria 5; 3.3–4.8 mm *C. baorucensis*, n. sp.
 5'. Elytron immaculate in apical ½; 2.3–3.4 mm *C. howdeni*, n. sp.

***Canthonella baorucensis*, new species**

Figs. 1, 3, 5, 8, 10, 12

Diagnosis. The maculation of the elytral apex, the bearded labial palpimeres, and the aedeagus will distinguish this species.

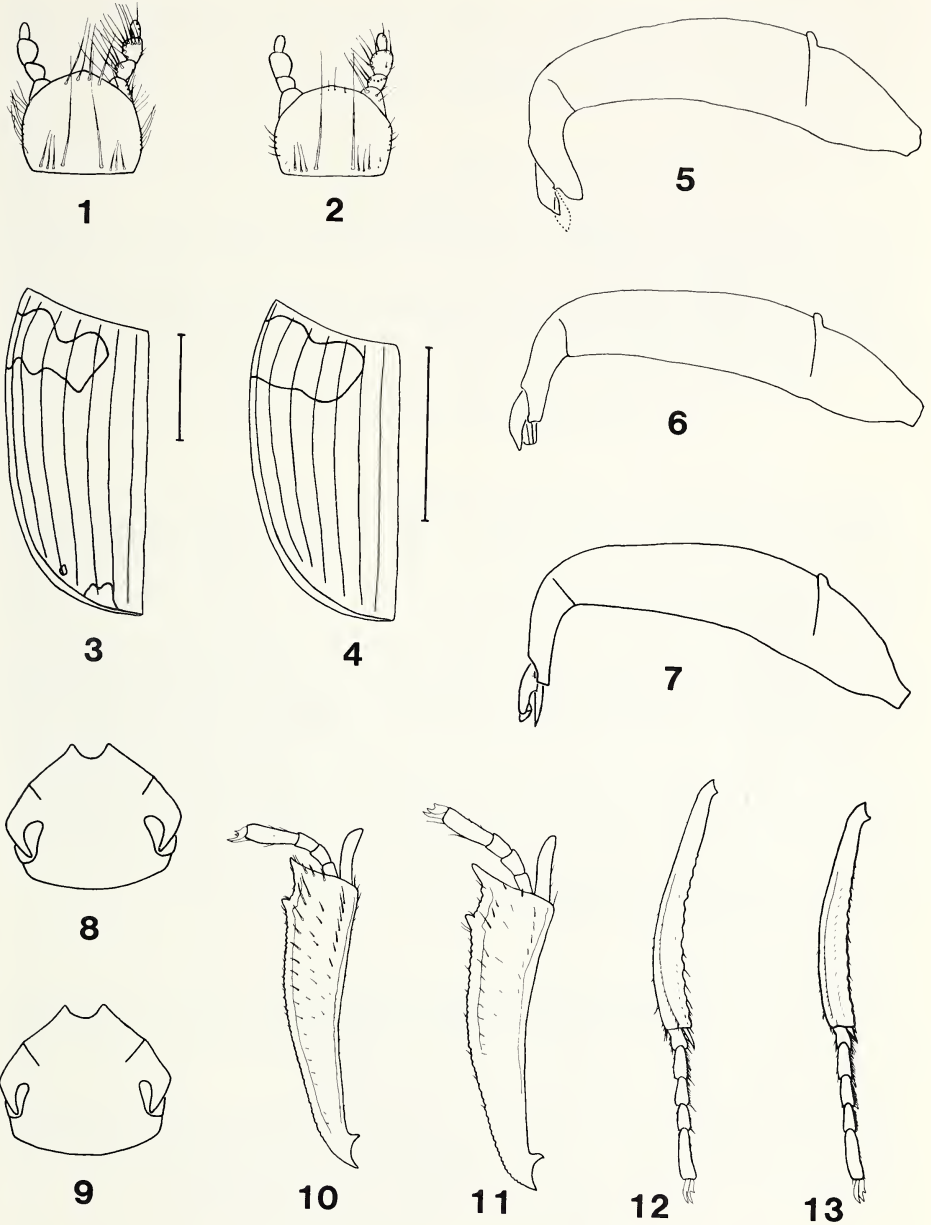
Description. Elongate oval, finely pilose, shining black except maculae as follows: whitish-yellow transverse spot from 8th stria to between striae 2 and 3, not reaching base of elytron, narrowed between striae 4 and 5 (Fig. 3); epipleuron whitish-yellow; apical triangular spot on intervals 2, 3, 4 (and rarely 5), anterior angle on 3, base on 2, 3, 4; round apical spot on intervals 5 and 6, occasionally obsolete.

Eyes dorsally separated by 8× maximum width of dorsal lobe (Fig. 8). Labium obtusely produced medially, palpi with segments 1 and 2 bearded with long setae medially, segment 2 larger than 1, 3 small (Fig. 1).

Pronotum as wide at base as base of elytra, lateral margins diverging anteriorly for ¼ of length, abruptly bending inward at obtuse angle and converging for anterior ⅙.

Elytral striae 1–7 impunctate, consisting of 2 fine adjacent lines, stria 8 subpunctate. Interstriae flat, conforming to general shape of elytron. Fore tibia transversely truncate apically; with 2 acute teeth externally, serrulate between and proximal to them (Fig. 10). Metatibia as in Figure 12. Aedeagus as in Figure 5.

Sexual dimorphism. Males differ from females in the following: males with interior



Figs. 1-3. 1, 3, 5, 8, 10, 12. *Canthonella baorucensis*. 2, 4, 6, 9, 11, 13. *C. howdeni*. 7. *C. isabellae*. 1, 2. Labium. 3, 4. Elytral pattern. 5, 6, 7. Aedeagus. 8, 9. Dorsal view of head. 10, 11. Protibia and tarsus. 12, 13. Metatibia and tarsus.

margin of metatibia serrate (Fig. 12), each serration with an oblique, stout seta projecting from distal face (this character is variable in degree, with 4 of 51 males having the serration obsolete or nearly so; it does not appear to correlate with size); apical spine of protibia stout; visible sternite 6 narrowed medially.

Length 3.3–4.8 mm.

Holotype male and allotype female labeled: "DOMIN.REP.: Pedernales; Province, Las Abejas; ca. 35 km N Cabo Rojo; 26 AUG-09 SEP 1988, 1,250 m; dung-pitfall trap/M. A. Ivie, T. K. Philips & K. A. Johnson colrs."

Paratypes: 48 males, 25 females, same data as holotype. Two males, same data, except in fight intercept trap.

Etymology. Named for the Sierra de Baoruco of the south-western Dominican Republic where this species was discovered.

Canthonella howdeni, new species

Figs. 2, 4, 6, 9, 11, 13

Diagnosis. The elytral maculation and aedeagus will distinguish this species.

Description. Elongate oval, finely pilose, shining black, except with whitish-yellow spot on elytron from 8th stria to between 2 and 3, not reaching base of elytron and narrowed between striae 4 and 5 (Fig. 4); epileuron whitish-yellow adjacent to this macula, apical half of elytron immaculate.

Eyes dorsally separated by $8\times$ maximum width of dorsal lobe (Fig. 9). Labium with apex slightly raised and obtusely produced; palpi with segments 1 and 2 bearded with long setae internally, segment 2 larger than 1; segment 3 small (Fig. 2).

Pronotum as wide at base as base of elytra, lateral margins diverging anteriorly for $\frac{1}{2}$ of length, smoothly curved inwardly in anterior $\frac{1}{2}$. Elytral striae 1–6 impunctate, consisting of 2 fine parallel lines, striae 7 and 8 faintly subpunctate to impunctate, interstriae flat, conforming to shape of elytron. Fore tibia transversely truncate apically, with 2 acute teeth externally; serrulate between and proximal to teeth (Fig. 11). Metatibia as in Figure 13. Aedeagus as in Figure 6.

Sexual dimorphism as in *C. baoruicensis*, with male metatibial serration weak to obsolete in 4 of 31 males.

Length 2.3–3.4 mm.

Holotype male and allotype female labeled: "DOMIN.REP.: Pedernales; Province, Las Abejas; ca. 35 km N Cabo Rojo; 26 AUG-09 SEP 1988, 1,250 m; dung-pitfall trap/M. A. Ivie, T. K. Philips & K. A. Johnson colrs."

Paratypes: 30 males, 31 females, same data as holotype.

Etymology. Named in honor of Professor Henry F. Howden of Carleton University, whose interest in West Indian coleopterology, as well as his encouragement and help with our careers, makes it a pleasure to dedicate this species to him.

Canthonella isabellae Matthews

Fig. 7

Matthews (1966) had a single specimen when he described this species, and was unable to illustrate the aedeagus, important for the diagnosis of species in this genus. We were able to collect a series of this species at 3 localities in Pedernales Province:

13.5 km N Cabo Rojo, 21 AUG 1988, 140 m, flight intercept trap; 20 km N Cabo Rojo, 365 m, Las Mercedes turn-off, 21–22 AUG 1988, dung baited pitfall trap; and at 24 km N Cabo Rojo, 610 m, 20 AUG–09 SEP 1988, in flight intercept trap. We take this opportunity to illustrate the male genitalia (Fig. 7) as an addition to the knowledge of this attractive species.

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